

Abstract of the Disclosure

Circuitry generates a secondary reference voltage in a multi-reference amplifier as a function of a primary reference. As such, the secondary reference equals a known, fixed portion of the primary reference, thereby minimizing distortion due to variations in voltage (or current) ratio. A zero detector is used to monitor incoming data. When the input data is zero, the integral of primary or high-voltage reference represents pulse-width data of 'one.' This integral is compared with the integral presented to load through the buffer amplifier, such that the high-voltage reference integral commands a non-inverted output. The output of the amplifier across the load drives the digital integrator to produce higher or lower data values at its output, when enabled by the zero detector. The data value output of digital integrator is converted to a pulse-width train by pulse-width modulator, filtered, buffered, and switched to the load as the secondary reference voltage.